DOCUMENT RESUME

ED 283 294 EA 019 520

AUTHOR Charters, W. W., Jr.
TITLE Formal Organization and Faculty Communication: A Study of the Multiunit Elementary School.
INSTITUTION Oregon Univ., Eugene. Center for Educational Policy and Management.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.; Spencer Foundation, Chicago, Ill.
PUB DATE Feb 80
NOTE 20p.; Paper presented at the Annual Meeting of the American Educational Research Association (Boston, MA, April 1980). For related papers, see EA 019 518-521.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Comparative Analysis; Elementary Education; *Group Dynamics; Instructional Innovation; *Interpersonal Communication; *Multiunit Schools; Norms; Organizational Communication; Organizational Theories; Participative Decision Making; Predictor Variables; Questionnaires; Research Methodology; *School Organization; *Teacher Attitudes; *Team Teaching
IDENTIFIERS Collegial Teams

ABSTRACT

This report analyzes the effects of multiunit school organization on elementary teachers' patterns of task-related communication. Multiunit teacher work teams, or units, are characterized by discussions between teachers about the intimate details of their daily work; this contrasts with the structurally undifferentiated organization of conventional schools where independent teacher arrangements in self-contained classrooms inhibit anything but general discussions. Hypothetically, multiunit organization would segmentalize teachers into intensely interacting microcosms, increase overall task-related communication, and concentrate communication linkages within faculty units. This report focuses on "before and after" measures taken in April 1974 and again periodically throughout the next two school years ending in April 1976 at 10 schools making clear strides toward multiunit implementation; a similar number of control schools were measured simultaneously. A sociometric-like procedure was used to measure task-related communication so that patterns of interaction could be identified. The more crucial analyses relate to patterning and amount of within-unit as compared to across-unit interaction. Analysis demonstrated that change to team organization increased the overall amount of faculty task-related communication, and a hierarchical regression procedure tested the dependability of the change. Log-linear analysis showed that communication linkages doubled within-unit and dropped about one-fourth across unit over the measurement period. Though schools moved toward segmentalization, only one-quarter of units became tightly-knit microcosms. Factors that pressure small group members toward uniformity could be divisive, but short of this, segmentalization of the communication structure could be the first step toward differentiation in the faculty's normative system. This scenario depends, however, on factors whose fulfillment seemed uncertain among schools studied. Teachers also appeared reluctant to sustain team allegiance over time. In sum, this study shows that school structural reorganization influenced unit members in the schools studies to discuss more with each other and less with other unit members. (CJH)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED283294

Formal Organization and Faculty Communication:

A Study of the Multiunit Elementary School*

W. W. Charters, Jr.

Center for Educational
Policy and Management

University of Oregon

February, 1980

*Prepared for the symposium on The Credibility of Research Findings: Epistemological Issues, American Educational Research Association, Boston, April, 1980. The original study was conducted under contract with the National Institute of Education, and further analyses and paper preparation were supported by a grant from the Spencer Foundation. I am deeply indebted to John S. Packard, director of the original project, and other colleagues--Richard O. Carlson, Kenneth E. Duckworth, Thomas D. Jovick, and Richard H. Moser--whose close collaboration provided the exceptionally rich data base on which I have been able to draw.

EA 019 520

BEST COPY AVAILABLE

This paper will report evidence regarding the effect of the school's formal organization on patterns of task-related communication among classroom teachers. The case at hand is the so-called Multiunit school, whose general design was developed early in the last decade at the University of Wisconsin's Research and Development Center for Cognitive Learning. By this design, the teaching staff of the elementary school is formally organized into work teams, or units, charged with responsibility for planning and conducting the instructional program for a common set of pupils (Klausmeier, Rossmiller, and Sailey, 1977). It contrasts with the structurally undifferentiated organization of conventional schools where each classroom teacher is responsible for most or all of the instruction of his or her own pupils.

The Multiunit School, if the plan were transformed into practice, would imply a configuration of task-related communication suggested by the sociogramatic representation in Figure 1. We mean by task-related communication, discussions between teachers regarding the intimate details of their daily work--about lesson plans, teaching tactics, approaches to the learning problems of specific pupils--not the more general discussions of school issues and impending events that often dominate lunchroom or teachers' lounge conversations. In comparison with the conventional school, where independent teaching arrangements of the self-contained classroom combines with school-building architecture to inhibit teacher talk concerning details of their work and where teacher isolation from potential colleagues is the rule (Lortie, 1969), the Multiunit organization would imply the segmentalization of the teaching staff into several intensely interacting microcosms. Empirically speaking, the overall incidence of task-related communication

should be markedly greater than in the conventional school and, more than that, the communication linkages should be concentrated within faculty units, not crossing between teachers assigned to different units.

- - - - - - - - - -

Figure 1

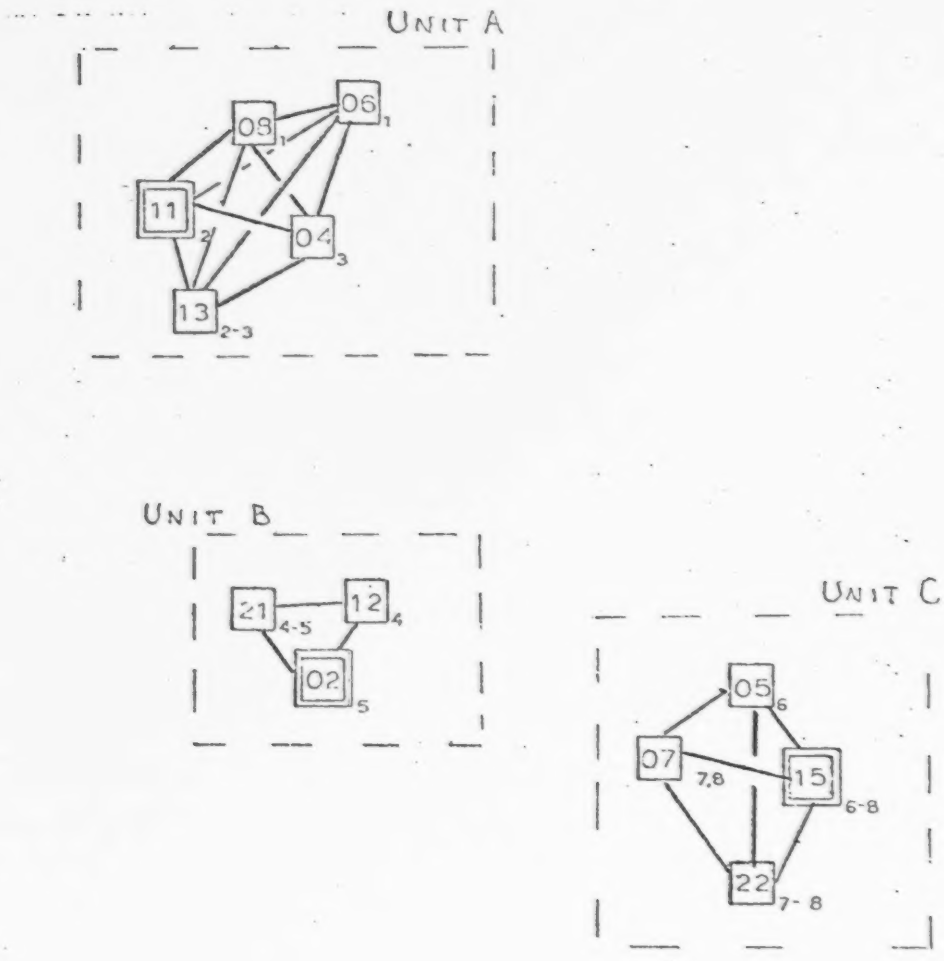
- - - - - - - - - -

Several studies have attested to the first part--the difference in overall volume of communication. Meyer and Cohen (1971), for instance, asked teachers in eight open-space, team-organized schools and in another seven conventional schools to report how often they talked with other teachers about six areas of work; the resulting frequencies were substantially higher in the team organized schools, both for informal interaction and for interaction in formal meetings. Other investigations have given similar results (Charters, 1973; Runkel, Wyant, Bell, and Runkel, 1980). Evidence concerning the patterning of communication, however, comes only from casual observations of team teaching and from ethnographic reports. On the basis of a study of a Multiunit elementary school in Wisconsin, Wolcott wrote:

> Teachers within each unit interacted almost exclusively with other unit personnel. Through their unit leader, teams knew what was occurring in the building's Instructional Improvement Committee (IIC), a committee consisting of the principal and unit leaders. But generally teachers perceived little opportunity to interact with the members of other units (1973, p. 59).

Such intensity and exclusivity of within-unit communication is virtually required by the Multiunit instructional plan, and it would not be especially surprising to find the depicted configuration in a systematic study. In fact, if the pattern did not appear in a school, one would have cause to wonder if the plan had been implemented fully.

Figure 1. Illustration of Segmentalized Communication Structure



It is not so much the emergence of the pattern that is worth attending as it is the longer-run implications it potentially holds for social relations in the elementary-school worksetting--for the school's "informal organization," as it once was called. Social psychologists and others have long underscored the significance of the small, face-to-face group in influencing the views and behavior of its members and in mediating the impact of events of the larger organizational context. The web of personal relations is a key to understanding affairs of the enterprise. From that perspective, the configuration of Figure 1 is a compelling depiction of powerful social processes in the making, and one begins speculating about possible side-effects of the Multiunit plan. I will return to the matter after describing the facts we observed about task-related communication in ten Multiunit elementary schools.

Sites and Measures

The main body of the analysis centers on a subset of 16 Multiunit schools a group of us at Oregon studied for several years under a contract with the National Institute of Education. We took measures in the schools, and simultaneously in a similar number of control schools, in April, 1974--the spring before the Multiunit plan was installed--and then periodically through the next two school years, ending in April, 1976. The final report was issued in 1978 and is available through the ERIC system (Packard, Charters, & Duckworth, 1978). I refer you to that report for methodological details not covered here, as well as for the general purposes and results of the study. The third section of the report on the Development of Teacher Work Groups, prepared by Kenneth Duckworth, offers a finely textured analytical treatment of the interplay between task-related communication, team management functions, and classroom

teaching arrangements through the two-year period, and his findings have furnished an indispensible backdrop for the more delimited analyses to follow.

I will concentrate on the ten schools that made the clearest strides toward implementing the Multiunit plan. Two of the 16 were automatically excluded, since they explicitly abandoned the plan after the first year. While the initial study was not designed to assess level of implementation, measures of two organizational properties were available, both methodologically independent of staff communication, which provided useful criteria. One was a measure of the extent of interdependence in teaching arrangements, the other of the collegiality of the school's decision structure. The ten schools were those that showed clear change from pre to post on both measures ("post" meaning our measurement at the end of the second year).[1] They all had the main trappings of Wisconsin's organizational plan, which, besides the establishment of units, included the designation of unit leaders and the creation of a coordinating council of unit leaders and the principal, the IIC.

Units typically consisted of three or four teachers, sometimes as many as six, but not all units contained pupils of different grade levels. The number of units ranged from two to seven per school. Major differences appeared between units, even in the same school, in the amount of team teaching that occurred and almost certainly in the extent to which teachers followed, or even attempted to follow, the instructional program of Individually Guided Education (IGE), although we did not collect information systematically on the latter point.

The ten schools were variously located in cities or towns of New Hampshire, Massachussetts, Kentucky, Virginia, and West Virginia, and one was a parochial school near Trenton, New Jersey. Four were essentially primary schools, containing grades 1 through 3 or 4, another four contained the first six grades, and two included the seventh and eighth grades. Most also operated kindergarten programs. The staffs ranged in size from 9 or 10 classroom teachers to nearly 25. Control schools were selected typically from the same school districts but were not matched otherwise with the Multiunit schools.

A sociometric-like procedure was used to measure task-related communication so that patterns of interaction could be identified. Teachers were asked in a questionnaire to list the names of other teachers in the school with whom they talked regularly about "classroom activities," "school-wide matters," and "matters unrelated to school or teaching and to indicate the frequency with which the discussions occurred ("at least daily," "several times weekly," "about once a week," or "once or twice a month").[2] It was possible to score the responses in different ways, depending on the purpose of the analysis. For the present analyses we used a strict criterion of task-related communication: only when two teachers agreed that they talked to one another "at least daily" about "classroom activities" did we count it as an instance of task-related interaction. For every pair of teachers in a school, then, it was possible to determine whether or not this condition applied.

The first analysis I will report describes the overall change in the amount of task-related communication in the ten Multiunit schools from pre to post, using the 13 control schools as a comparison base. For this purpose

we calculated a school score--the proportion of the total number of pairs of teachers in each school who were in daily contact, determined as I have just indicated.

The more crucial analyses relate to the patterning of communication and, specifically, the amount of within-unit as distinct from across-unit interaction. In the absence of a unitized structure, the control schools obviously could not be used for comparison. It was feasible, however, to construct hypothetical units in the Multiunit schools at the time of the pre measurement and to use them for the comparison base. Essentially, membership of the simulated units was determined according to the unit assignments in the succeeding fall, a procedure facilitated by the relative stability of the staffs over the summer. In cases where a teacher had left the school over the summer, the teacher was assigned the unit membership of his or her replacement. The description of within- and across-unit contacts in the "before" situation, then, refers to these hypothetical units.

For statistical computations we tallied the number of teacher-pairs who were not in daily contact as well as the number who were--both within and across units. This was necessary to take account of the changes that occurred in both unit and faculty size during the time interval. The frequencies we will report in the before-after analysis covered thirty-six units in the ten schools, excluding one unit whose members did not respond to the communication questionnaire in the final wave of data gathering.

Results

Consonant with the suggestion of comparative investigations, analysis demonstrated that change to a team-organized structure increased the overall amount of task-related communication in the faculty. The percentage of

teacher-pairs that talked at least daily about classroom activities increased from about 10 per cent, on the average, to 18 per cent of the possible pairs from the pre to the post measurement, while the percentages in the control schools remained nearly constant--at around 8 per cent. A hierarchical regression procedure tested the dependability of the change. After scores for the 23 schools were first regressed on the Before scores of communication, and then the "Organization" variable was introduced in the regression, dummy coded 1 for the Multiunit schools and 0 for the control schools. The increment in explanatory power was observed and tested for significance.

Table 1 gives the analysis results. The Organization factor explained an additional 32 per cent of the variance in post communication scores beyond the 25 per cent accounted for by the autocorrelation term. This strong increment in explanatory power is statistically significant beyond the standard .05 confidence level.

- - - - - - - - - -

Table 1

- - - - - - - - - -

The second analysis concentrated on the distribution of the communication linkages in the 10 Multiunit schools. Table 2 gives the number of teacher-pairs who were and were not linked in daily communication within units and across units at the two data-taking points. The numbers show that the within-unit contacts more than doubled over the measurement period, while across-unit contacts dropped by about one-fourth, clearly in the direction we had anticipated.

- - - - - - - - - -

Table 2

- - - - - - - - - -

Table 1. Regression of "After" Communication Scores on "Before" Scores and School Organization for 23 Elementary Schools.

Independent Variable	Beta	R^2	R^2 Increment	F
Before Communication Scores	.368	.2464		
School Organization[a]	.584	.5714	.3250	15.9339[b]

[a]Dummy coded: 1 Multiunit school, 0 control school.

[b]Significant beyond .05 level with 1/21 df.

Table 2. Communication of Teachers Within and Across Units Before and After Multiunit Organization in 10 Elementary Schools.

	Before		After	
	Contact	No Contact	Contact	No Contact
Within-unit pair	54	136	118	83
Across-unit pair	32	744	24	760

Log-linear analysis provided the formal statistical test of the data in Table 2. For those unacquainted with the method, log-linear analysis is like a Chi-square test for multi-dimensional contingency tables.[3] Letting A represent the number of within vs. across pairs, B the number of observations at each time period, and C the number of pairs in contact vs. not in contact, the relevant null hypothesis to test is a model described as (AB) (AC) (BC), which hypothesizes, in effect, that the rate of within-unit and across-unit contact did not change differentially over the time interval, taking account of the overall increase in contacts and the small increase in total observations. A statisitically significant Information Statisitc, as evaluated against the Chi-square distribution with one degree of freedom in this case, would lead to a rejection of the model and would signify that both the increase in within-unit contacts and the decrease in across-unit contacts were statistically dependable observations. When the calculations were completed, the resulting Information Statistic was 24.124, which, with one degree of freedom, was statistically significant beyond the .05 level.

The statistical analysis makes it plain that the Multiunit schools moved in the direction of segmentalization, and inspection of the numbers revealed that the trend was reasonably consistent in the ten schools. All showed an increase in proportions of within-unit contact, and seven of the ten a decrease in proportions of across-unit interaction.

However, the structure of no school had reached the epitomy of segmentalization of Figure 1 by the end of the second year, where every unit member interacted with every other unit member and where no interaction crossed unit boundaries. In only one small, ten-teacher school, with three units, did the structure come close to the ideal. Departures from the

BEST COPY AVAILABLE

prototype appeared in different forms: intense interaction in some of a school's units but not in others; exclusivity for some units but not for others; interaction among some of the units' members but not others; the interaction of one unit member exclusively with members of a different unit; and so on. We can capture a sense of the situation by the following tally of units. Twenty-eight of the 36 could be regarded as having rather intense communication among the members, on grounds that at least half of the member pairs were in daily interaction. Of the 28, just nine had no across-unit connections. Thus, only one-quarter of the units had reached the stage where they could be said to represent a tightly-knit microcosm within the larger structure. The trend was in the direction of segmentalization, but the schools had a long way to go before it was complete.

The differences among units in the intensity of within-unit communication are understandable from our earlier investigations (Packard, Charters and Duckworth, 1978). In looking at the through-time data it became apparent that a teacher's involvement in the team-teaching arrangements of the Multiunit plan was a voluntaristic and episodic matter. Teachers moved in and out of particular associations rather freely, and some chose to remain outside altogether. Duckworth's investigation demonstrated, too, that units differed markedly in the extent to which they developed into working groups. The IGE/MUS idea apparently never took hold in a number of them. Implementation of the plan, in short, was far from uniform throughout the Multiunit school.

The existence of the cross-unit interactions, even though they declined in number, was more puzzling. We considered the possibility that they were vestiges of associations teachers had formed in earlier years before the reorganization and, hence, might wither away in time. The idea did not stand up under examination. Seventeen of the 24 across-unit communication connections were between parties one or the other of whom had joined the staff after reorganization and in only three of the remaining seven instances were they continuations of an earlier association. We did find evidence, however, that team leaders played a key role in linking the units, although not necessarily as team leaders. All but five interactions implicated team leaders, the majority of which were between a leader of one unit and a member of another. Only six were between two unit leaders.

It is worth a note, in passing, that teacher isolation from colleagues was not the rule in the conventional schools in which we collected data. Tabulations revealed that roughly half of the teachers in the control schools were in daily contact with at least one other grade-level teacher, typically of the same grade level, on matters of classroom concern. Even more noteworthy was the marked school-to-school variations in this regard. Some schools were characterized by high levels of task-related communication, some by nearly total teacher isolation. Uncovering the causes of such contrasts in the teacher's worksetting is worthy of investigation in its own right.

Discussion

What are the implications of segmentalization in the school's communication structure? The small group is known to have a profound effect on the beliefs, attitudes, values, and behavior of its members, an effect that is the stronger as the members are protected against alternative beliefs from the outside. Laboratory and field studies have specified a number of factors that are lawfully associated with the "pressures toward uniformity," as some social psychologists call them (Cartwright & Zander, 1968). For instance,

pressures arise most powerfully with respect to viewpoints and modes of behavior that are centrally relevant to group functioning, like restoring decorum in a disorderly class or getting tomorrow's lessons planned. Pressures are the stronger when beliefs cannot readily be verified against objective reality--a condition that surely characterizes views about effective and ineffective teaching approaches. Pressures depend, too, on cohesiveness of the group, on the unanimity with which beliefs are expressed, and still other considerations.

If optimum conditions came to prevail in the team organized school, one would expect to see group norms emerge in the units, pressing the membership toward a common perspective and a homogeneous outlook on the tasks of teaching. The norms would provide teachers with common "definitions of the situation," permitting expeditious agreement on issues important to unit operations and facilitating all the more the interactions of the members. One would expect the norms to be distinctive from one unit to the next, building on and crystallizing whatever incipient differences in perspectives there might be, as between primary and intermediate teachers. Carried to the extreme, the norms could incorporate elements of invidious comparison of other units and their members, leading to competition, rivalry, and general divisiveness in the school, but short of this, segmentalization of the communication structure could well be the first step toward differentiation in the faculty's normative system.

This scenario depends, though, on several conditions whose fulfillment did not seem to be a matter of certainty in the schools we studied, among them the exclusivity of interaction that would inhibit the penetration of the unit by alternative perspectives and frames of reference. We could not

explain the cross-unit interactions we found in terms that suggested their eventual disappearance. In addition, teachers appeared reluctant to cast their lots inexorably with a given teaching team and sustain their allegiance to it over time. Team arrangements were off-again, on-again things--an observation other investigators have made in a different setting (Cohen, Deal, Meyer, & Scott, 1978). Team arrangements, too, were more casual than intense, at least among most of those we found. Should the separation of units from one another somehow become dysfunctional for the teachers, it is within the power of the staff to rectify the situation. In the case that Wolcott observed, and from which I quoted earlier, the staff recognized the exclusiveness with which unit members interacted with one another as a shortcoming of the first year's program and set up mechanisms to increase interaction between units. Most successfully, Wolcott reported, was the establishment of committees in specific curriculum areas comprised of a teacher representative from each unit (Wolcott, 1973).

Finally, I should note that one investigation undertaken in the Multi-unit schools we studied failed to find any sign of normative differentiation by the end of the second year of unit organization. Partridge (1979) made an exhaustive analysis of the proposition that intense task-related interaction among unit members would bring about a convergence of views concerning the teaching-learning process. Apparently, the conditions of social influence had not, or had not yet, reached a strength sufficient to produce an effect.

In sum, this study has shown with little equivocation that the structural reorganization that occurred in the ten schools we observed had a distinct impact on how much classroom teachers talked about their classroom activities and who talked, and did not talk, to whom. Unit members came to talk more to one another and less to members of other units. What might lie down the road

BEST COPY AVAILABLE

for the team organized schools I do not know; our funds ran out before we could find out.

Footnotes

[1]Specifically, residual gains were compted from the regression of post values of interdependence and of collegial decision making (separately) onto their pre values. Control schools were included in the regression analyses. The selection criterion was a positive residual gain on both variables. One school that met the criterion was excluded because the number and composition of units was so radically altered during the study that the identity of its units could not be established unequivocally through time, an important requirement of the before-after analysis method we employed.

[2]Only in the first wave of data gathering did we ask teachers literally to write the names of other staff members, a task that some teachers found onerous. Later we furnished staff rosters which teachers could check. It was only with reluctance that we made the procedural change, dictated by the necessity, however, of maintaining the cooperation of respondents so vital to a longitudinal investigation. Methodological investigation suggested that the procedural change increased the number of teachers nominated in the categories of lesser frequency but had little influence on the number indicated as daily contacts.

[3]Davis (1973) provides a reasonably concise explication of the method.

REFERENCES

Cartwright, D., and Zander, A. (Eds.), Group Dynamics, 3rd ed., New York: Harper & Row, 1968.

Charters, W.W.,Jr. Measuring the Implementation of Differentiated Staffing: A Comparison of Two Elementary Schools, Monograph No. 26, Center for the Advanced Study of Educational Administration, 1973.

Cohen, E.G., Meyer, J.W., Scott, W.R., and Deal, T.E. "Technology and Teaching in the Elementary School," Sociology of Education, 1979, 52, 20-33.

Davis, J.A., "Hierarchical Models for Significance Tests in Multivariate Contingency Tables: An Exegesis of Goodman's Recent Papers," in H.L. Costner (Ed.), Sociological Methodology, 1973-74. San Francisco, Calif.: Jossey-Bass, 1973. Chap. 8.

Klausmeier, H.J., Rossmiller, R.A., and Saily, M. (Eds.) Individually Guided Elementary Education, New York: Academic Press, 1977.

Meyer, John, and Cohen, Elizabeth, The Impact of the Open-Space School upon Teacher Influence and Autonomy: The Effects of an Organizational Innovation, Technical Report No. 21, Stanford Center for Research and Development in Teaching, 1971.

Partridge, R.H., Teacher Beliefs about the Educative Process: Test of the Interaction-congruity Hypothesis. Unpublished doctoral dissertation, University of Oregon, 1979.

Runkel, P.J., Wyant, S.H., Bell, W.E., and Runkel, M., Organizational Specialists in a School District: Six Years of Innovation, Center for Educational Policy and Management, University of Oregon, 1980.

Wolcott, H.F., "Three P's from a Pod: Staff Differentiation in a Multi-Unit School," in M. Scobey and A.J. Fiorino (Eds.) Differentiated Staffing, Washington, D.C.: Association for Supervision and Curriculum Development, 1973.